(No Model.)

J. D. ROBERTS.

BOTTLE STOPPER AND FASTENER.

No. 260,323. Patented June 27, 1882.

Fig. 1.

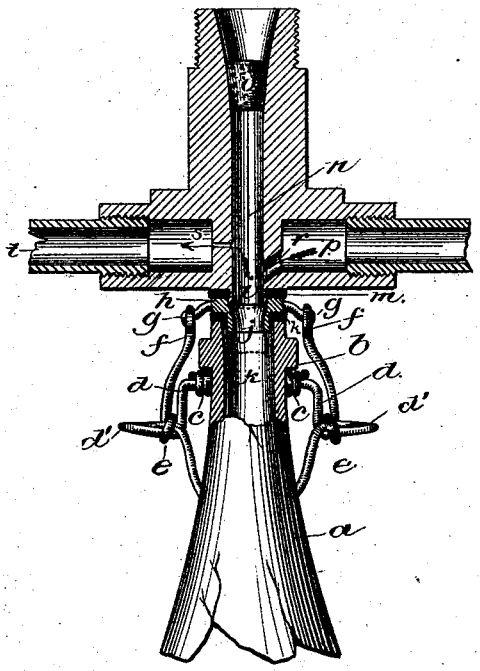
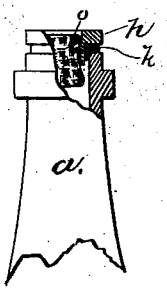


Fig. 2.



Witnesses.
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UNITED STATES PATENT OFFICE.

JAMES D. ROBERTS, OF BOSTON, MASSACHUSETTS.

BOTTLE STOPPER AND FASTENER.

SPECIFICATION forming part of Letters Patent No. 260,323, dated June 27, 1882.

Application filed May 5, 1882. (No model.)

To all whom it may concern:

Be it known that I, JAMES D. ROBERTS, of Boston, county of Suffolk, State of Massachusetts, have invented an Improvement in Bottle Stopper and Fastener, of which the following description, in connection with the accompanying drawings, is a specification.

My invention relates to bottle-stoppers, and has for its object to enable the bottle to be stopped by means of a cork of smaller size than heretofore commonly used in connection with bottles of like size.

In this my invention I employ a cap composed of a metal annulus provided with a collar to enter the mouth of the bottle to be closed. This cap has a tapering passage to receive a common cork, which will be driven therein from the cork-guiding tube of a bottle-filling apparatus, the nose of the said apparatus having an annular projection to enter the passage in the cap and insure the direct entrance of the cork into the passage of the cap.

Many bottles for mineral and other waters are stopped by corks driven directly into them by the usual plunger of the filling-machine; but such corks are larger in diameter than the diameter of the opening in the glass neck of the bottle. In this my invention, by partially closing the neck of the bottle by means of a metal cap having a central hole I am enabled to stop the filled bottle by means of a comparatively small cork—as, for instance, I may use so-called "vial-corks" to stop the usual mineral-water and beer bottles, which results in a very great saving to manufacturers. When driven into the cap the small cork forms part of the removable stopper composed of the cork and the cap. The cap has lugs at its sides, which receive fastening-links that connect the cap with the fastening-lever connected at one end with the bottle-neck, and adapted by its movements to keep the cap pressed closely into the mouth of the bottle, or effect the removal of the cap from the mouth of the bottle to completely uncover the same for the discharge of the liquid from the bottle. The central passage through the cap is used only when filling the bottle.

Figure 1 represents in elevation and partial section the neck of a bottle containing my improved metal cap stopped by a cork, the said figure also showing in vertical section a portion of a bottle-filling apparatus to show the manner of filling the bottle and directing the cork into the cap; and Fig. 2 is a sectional view of the neck of a bottle stopped in accordance with my invention.

The bottle *a*, of any usual kind, is provided with the usual shoulder, *b*, surrounding its neck to receive the wire *c*, the coils of which afford a bearing for the pivot portion of the fastening-lever *d*, which is provided with two lateral loops, *d'*, engaging eyes *e* upon the fastening-links *f*, connected at their upper ends with lugs *g* upon the metallic cap *h* of the bottle-stopper, the links and lever forming a toggle-joint. By this construction of the fastening lever and links it will be seen that the fastening-lever has pivots to enter eyes formed at the ends of the links, instead of having eyes to receive pivot portions at the ends of the links, as in the usual manner, thus affording a much stronger fastening, while the loops *d'* constitute convenient handles or thumb-pieces to receive the thumbs of the operator when pushing against the toggle-joint to move it and remove the cap *h* from the mouth of the bottle.

The cap *h*, instead of being a solid piece of metal, has a tapering opening, *i*, and a somewhat contracted tubular collar or portion, *j*, to enter the neck of the bottle, the said portions *h* and *j* forming an angle or shoulder on the outside to receive a flexible washer, *k*, of rubber or other suitable material. The upper surface of the metallic cap *h* is smoothed to afford a seat for a yielding washer, *m*, surrounding the projecting nose 10 at the end of the cork-driving passage *n* of the bottle-filling apparatus, the said cork-passage *n* being enlarged at its upper end to receive a cork, *o*, which is forced therethrough at the proper time, by any usual cork-driving devices, into the passage in the cap *h*, as shown in dotted lines, Fig. 1.

The liquid is forced in any usual manner from the liquid-tube *p* through the passage *r* into the cork-passage *n*, from which it descends through the opening in the metallic cap *h* into the bottle, there being a perfectly-tight connection between the said bottle and the passage *n* through the cap *h* and washers *k m*. The displaced air escapes through the passage *s*, from which it may be conducted away by the pipe *t*. When the bottle is filled the cork *o* is driven down into the tubular portion *j* of the

metallic cap *h*, thus completely stopping or closing the bottle, which may then be removed from the bottling apparatus, the process of filling and stopping the bottle thus being the same as if the neck of the bottle were corked in the usual manner.

When it is desired to open the bottle the entire stopper, consisting of the metallic portion *h*, the washer *j*, and the cork *o*, is removed by breaking the toggle-joint of the fastening-lever in the usual manner, thus opening the bottle without necessitating the drawing of the cork, which, in reality, constitutes a portion of the stopper and is removed bodily therewith. The nose 10 of the filling apparatus enters the central opening in the cap *h*, thus insuring a continuous straight passage to guide the cork *o* well into the central passage of the cap. On the return of the bottle to the bottler, its contents having been removed, the small cork yet retained in the cap will be removed and may be used over again, whereas in beer and other bottles containing fermented or carbonated liquids, stopped by corks driven therein, the corks removed by means of a cork-screw are commonly destroyed.

I have herein shown a portion of the bottle-filling apparatus and cork-guiding tube with nose to enter the metal cap; but this I do not herein broadly claim, as it will form the subject-matter of another application for patent.

I claim—

1. A bottle-stopper composed of the open cap *h*, having a collar to enter the neck of the bottle, and a cork driven into the said cap, combined with links and lever to operate the stopper, substantially as described.

2. The fastening-lever *d*, provided with pivots *d'*, and connected at its ends with the wire *c* about the neck of the bottle, combined with the fastening-links having eyes mounted on the said pivot *d'*, and the hollow open cap *h*, its ears, the collar *j*, and the small cork *o*, driven into the said cap, all substantially as shown and described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JAMES D. ROBERTS.

Witnesses:

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W. H. SIGSTON.